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Social Ph.
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Schematics, Systematics, Normatics.

This is my own system. I think it makes sense, and hope the sense to be communicable. If an apology is called for, I will save it for more careful, lucked and thorough presentations of a later date, unless I am encouraged to desist.

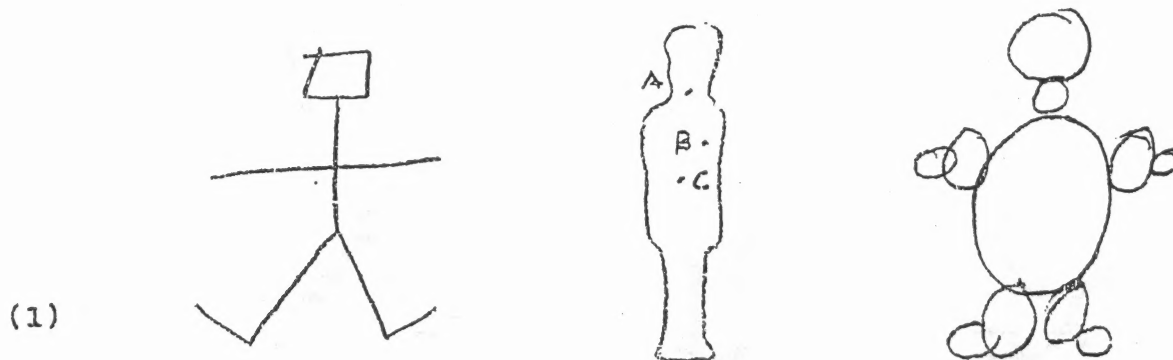
There are three ideas here, one for each section. Since I have pulled them out of the air, I would rather someone else had said them first than that they were useless.

I have not got the slightest idea what and how the herein relates to the main stream of philosophy, nor to symbolic logic or statistics(- although I feel a strong feeling toward factor analysis.) It has been more enjoyable to blunder in the dark than to grope for the light switch.

However, I think I do know how this relates to structural linguistics; I would like to believe it is the awaited inflation of the "linguistic model" to universal proportions. Such titanic ambitions aside, I would be most pleased if anyone finds it useful.

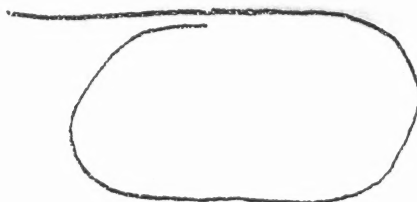
PART ONE. SCHEMATICS

There are two principles in description which I find titillating. One is that the same thing will often be described quite differently by two people. To illustrate pictorially. You could draw any of the following curt sketches, and call it a "man."



The other principle is that the same description will often fit a number of different things. Again, the pictures.

(2a)



Path of marble in toy;
path of evasive rabbit;
path of foot race;
path of particle in
cyclotron.

(2b)



Feedback; sociometric
layout; Arthur Murray step.

It seems to me that the two principles merit attention under a single heading. Let me introduce the term "schematic" for any description or description, not necessarily a picture. I do not use the word "description"-- or, for that matter, "concept"-- for several reasons. 1) A description can be "good" or "bad," "complete," "incomplete," "true" or "false." I would not like to say

~~that case~~ could hold for the schematic, although it will certainly be that the application (or correspondence) of a ^{given} schematic to a given context will be "good," "bad," "true," etc. 2) A description or a concept, to exist, must be made, held, stated or thought. A schematic need not. A schematic, like a number, might be said to "subsist," like a number, no one need ever have thought about it. 3) I will later discuss the transformations among schematics; these would be unthinkable for "descriptions."

A schematic, unlike a description, need not be explicit; while we can reverse it and say that a description is an explicit schematic. It is important, though, that a schematic be explicable; that is, that it may be set forth in communicable, examinable and delimited form. But no matter how it is set forth, it is still the same thing: a set of things and relationships arbitrarily abstracted and differentiated. "Arbitrarily," of course, does not imply limitless option; rather, the sensible rules for reasonably forming schematics in various cases and places are diverse.

The schematic is frequently encountered as a figment of education, where a crude collision of shapes and vectors is keyed to such things as "Roman Empire," "God," "realism." These can be, however, sensible ways to think and talk, and so I would like to examine aspects of this way of talking and thinking.

Often a schematic may be characterized by someone as being "fundamentally thus-and-so," or "generally this-and-that." Is it possible or profitable to characterize schematics in this fashion? Here is a list of terms which have been applied to schematics: Monistic, Dyadic, or dichotomized, or pluralistic, Complex, or more pluralistic. I would not like to say

- d. Circular.
- e. Dynamic.
- f. Holistic.
- g. Coherent. Or unified.

a. A monistic schematic would be one possessing an over-riding single principle:

(3) Everything in the universe is ordained by God.

The sentence immediately calls forth the suspicion that the single principle does not say anything and can be canceled out. This would be fun, but I fear it is not so. Let us take (3) above, and dissect it.

(3a) The physical laws of the universe was ordained by God.

(3b) The particular circumstances pertaining in the universe were ordained by God.

(3c) The acts of man are ordained by God.

We could reduce this to:

(3a') The physical laws of the universe, the particular circumstances pertaining in the universe, and the acts of man--
(3b') -- are or were ordained by God.

We wondered whether we could cancel out the "God" part, or whether it would be illicit. Suppose we try it, correcting for grammar and suggestion.

(4) There exist in the universe physical laws, particular circumstances, and acts of man.

This is a perfectly reasonable position. However, by inspection we know that it is certainly not the same belief as (3), (3a,b,c) or (3a',b'). One obvious reason is that it yields none of the propositions (3a,b,c). We note that (4) resembles (3); but then, so do

- (5a) The physical laws of the universe were ordained by God.
- (5b) The particular circumstances were ordained by God.
- (5c) The acts of man are acts of Free Will.

b. The dyadic schematic would rest on two principles or things (say, "God and the Devil are jointly accountable for everything of importance," "All behavior contains two aspects: the utilitarian and the symbolic." Such schematics contain the fundamental dichotomy

- (6) A & B (alternatively, A versus B, A among the B, watch out for the A in the B, which side are you on? etc.)

Other schematics which might be related to dichotomies would not contain the dichotomy, as: "Don't bother with the in-between ones, just throw them away," "The Negroes are getting lighter and lighter," "There used to be only two kinds of women-- now there are three."

c. The complex, or quite pluralistic, schematic, is one that just doesn't factor easily. E.g.,

- (7) The sparkplug fires, and the gas explodes, and the explosion drives the piston, and the crankshaft turns, and the doohickey waggles, ... and it starts over again.

Can we measure, then, how complex a schematic is? & Certainly not by a numerical count of the entities or principles in it.

Suppose I were to say, "History consists of the actions of Adam, Eve, Cain... me." If all that mattered were the number of entities, here would be an enormously complex theory; yet it can plausibly be considered monistically, i.e., "History is the actions of all men, ever." So I think we must conclude that there is no measure of how complex a schematic is, except in accordance with how well it fits a paradigm (q.v.) In other words, if I say, "That is a complex theory," (and am not merely indicating thereby that I do not understand it,) I mean a) "there is not some 'obvious' way of factoring the theory-- as 'monistic,' etc"2 -- and b) "the other theories I have in mind to cover this ground do not relate easily to this one."

d. The circular schematic is not merely one whose definitions are circular, since in pure schematics all definitions are circular (see p. . . .). Rather, the circular schematic would be exemplified by the children's game "Stone beats scissors, scissors cut paper, paper wraps stone," the tigers chasing around Little Black Sambo's tree, a merry-go-round, etc. It is clear that there is an underlying Circular factor. Obviously-- and this is why I brought it up-- if you can have circular schematics, you can have square schematics, pentagonal schematics, cylindrical schematics, laryngiomorphic schematics (as in acoustic phonetics,) homuncular schematics. Whether they are useful, and true in a given context, depends.

e. The holistic schematic does not exist. Actually it is not the schematic which is holistic, but its advocates. A man will claim his schematic to be holistic in opposition to another's.

What the holist contends is that his schematic reckons with some important fact about the thing schematized, and that the other fellow's does not. He may be right or wrong.

f. A dynamic schematic is one defined in terms of its internal relationships, and for which operational definitions are a) not submitted, or b) inordinately impractical. When an operational definition is not submitted, it may be oversight; it may be the as-yet-inadequate formulation of a valuable insight; it may be shicanery. Operational definitions would be impractical when the relationships were unique for every individual and it were impossible to study thoroughly a sampling of individuals. If, in the Freudian scheme, the relation of the Ego and Id is strictly unique, and we must help the patient rather than toy with him, there is no time for definition and experimentation. There are actually several if's here.

Freudian ifs and buts aside, it may often be altogether justified to postulate a dynamic entity. If we see something unified but the light is dim, if we sense an organized change, we have a perfect right (bounded, as rights are, by discretion) to talk about it as a "thing," not pending the establishment of causal and interlocking relationships, but expecting it.

g. A coherent (or unified) schematic has no contradictions. This is, in fact, no more than to say that it is worked out. Let me illustrate:

(8a) I am the Master of my Fate.

(8b) I am the Captain of my Soul.

(8c) The trouble is, people keep pushing me around.

7.

is an obviously incoherent schematic; if the statements were reduced to mutually compatible language, the schematic would immediately ensnarl itself in logical contradiction. However, some quick cogitation will straighten things out. For example,

(8a') If people weren't so rotten, and the situation so unjust, I would have more freedom, and truly be Master of my Fate, Captain of my Soul.

Or

(8a'')

I am the Master of my Fate.

(8b'') I am the Captain of my Soul.

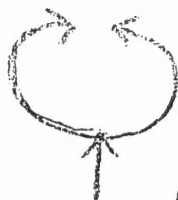
(8c'') I am the King of the Universe.

(8d'') People think they push me around but actually I just want them to think that. What really happens is I order them to by telepathy.

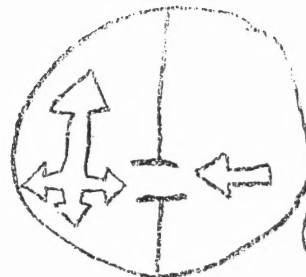
I trust this example will support my belief that "coherence" is actually merely the completion of remarks toward a schematic. I believe, further, that a viewpoint can always-- though with great difficulty-- be made coherent in the face of staggering contradictory evidence; and that if we adopt a particular schematic for a given context, it is merely because proof on our side is simpler. For example, it can be maintained that the earth is flat without denying any evidence to the contrary, through postulating collapsible dimensions and soforth. Philosophers might contend this idea, but in any case I shall not elaborate on it here; all would agree such a strained position to be a ludicrous posture.

After these general remarks, let us seek a clearer way of setting forth a schematic. There are a couple of ways we have used already: the diagram:

(9)



(after Reich)



(after
Lewin)

This is all very well, but not every schematic may be usefully, conveniently or comprehensibly set out as a diagram on a flat sheet of paper. So we have the set of propositions:

(10a) All men are created equal.

(10b) They are endowed by their creator with certain inalienable rights.

(10c) Among these are 1) life, 2) liberty, 3) the pursuit of happiness.

(One method we have not used here, of probable future value, is the infant technique "Discourse Analysis," under development by the U. of P.'s Zellig S. Harris and documented in the journal Language; it is the aim of the method to break down speech or text into its unique isolable components; the end of the operations involved is the formula presentation of a given discourse.)

I would like to try a fourth possibility here, the subsumption of all schematics under the general taxonomic-componential form: A, B, C, D... ("the market has a vegetable counter, a meat counter, a canned goods counter...")

Looking at a schematic "pure," that is, regardless of what its terms mean in common usage, we may regard the parts of a schematic as defining each other. In other words, in the schematic, "John loves Mary," we know, regardless of the English meanings of the words, that "John" is that which loves Mary. Or we might emphasize that "Mary" as being that which John loves. Or, again, it is clear that "love" is what John does to Mary. Ignoring the commitments



of seeing, we can regard the schematic as a set of things the parts of which relate to each other. (Some relationships in the schematic are important and fundamental-- like "John" and "Mary" each having four letters (we leave out!) If we call our fundamental entities A and B, we can set forth a preliminary schematic: "We are going to talk about John and Mary."

(11) $a * b$.
 (11a) $a * b$ is read "a loves b".
 Now we add to the schematic a relationship between John and Mary: "John loves Mary." The notation is my own.

(11b) $a * b$.
 (One method we have of using $a * b$ here, is to read it "a loves b". The relationship could as well be written $b * a$. The reciprocal, "Mary loves John," and the relationship "Mary and John love each other," must be written in the same way. Means of distinguishing them will be discussed later.)
 Now let us add another relationship: "Mary knows that John..."

...like to be a fourth possible term, the schematic becomes: "Mary knows that John loves Mary."
 Next: "John knows that Mary knows he loves her."

(11d) $a *** b ** a * b$.
 Each term of the schematic, (1) represents a part, that is, some relationship worth including in the schematic. The total schematic, as we have set it forth, has five parts:

(11) $a, b, a * b, b * a * b, a *** b ** a * b$.

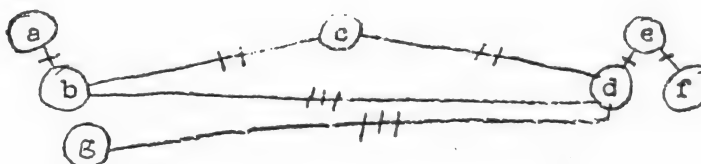
How many possible relationships are there? Obviously an infinite

number, though clearly most of them are of no use whatever.

Now: to specify a schematic is to state all

the parts of a schematic; to specify a correspondence between two schematics is to specify all the equivalences between parts. We will try setting forth a schematic in two ways.

(12)



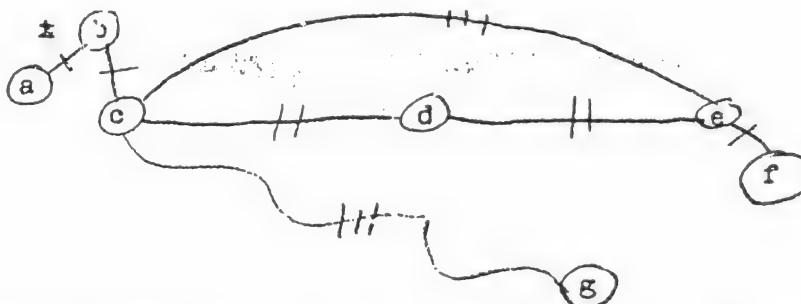
(13) a, b, c, d, e, a*b, b*c, b*d, c*d, d*e, d*g, e*f,

(a*b)**(d*e)-(e*f) (--SEE NOTE,) b*c**c*d, b*d**d*g.

(NOTE: when a part is the relation of more than two relations, it is economical to use hyphens and parentheses.)

Anything will fit this schematic which has discrete parts corresponding to the parts of this schematic. For instance,

(14)



is topologically identical, but the entities have different names.

(One immediate problem that manifests itself is the question of the name schematic set forth so that relations were now entities and vice versa. Obviously, rules of transformation and rotation are called for. I don't know them.)

In any case, the order of a schematic is the number of removes at which relations continue to interlock, that is, the number of

times the relations-to-relations continue to be important. This is probably a function of the number of asterisks in a schematic. I presume that, regarding arithmetic as a schematic, its schematic order would be infinity; so that, as a science evolves, we want to maximize the number and order of true statements we can make in it-- regarding the entire science as the schematic, and each statement as part of it.

The reader may recall the first drawings which all represented "a man," and the curlicue which could be so many things. In both cases, an interesting feature was the resemblance between a number of schematics. In the first instance, both were schematics of the same thing, but we knew this from an outside source (the text.) In the second case, all were similar by inspection.

Let us find a parallel in academic life. In the first case, two different investigators find different ways of describing the same thing-- we find this in psychology: S-R versus Gestaltists, Freudians versus factor analysts. In the second case, someone finds a general principle to hold in several scattered fields: the study of "populations," in demography, ecology, economics, astronomy and microphysics. This shows, I think, that we will want to know when two principles are alike.

Well, when may we say two schematics are the "same" schematic? It is an inadequate criterion of the similarity of two schematics that they seem alike, since human perception, though incisive in some areas, is in others renowned for its lack of subtlety.

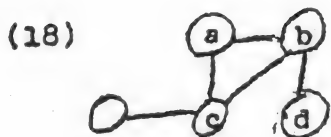
Certainly when the same mathematical formula applies in two different fields, we would not venture that it is a different formula because of it. This gives us a first criterion for sameness:

if we will immediately regard two things as "the same" if they are set forth identically in some known arithmetical system, geometrical system, or logical system.

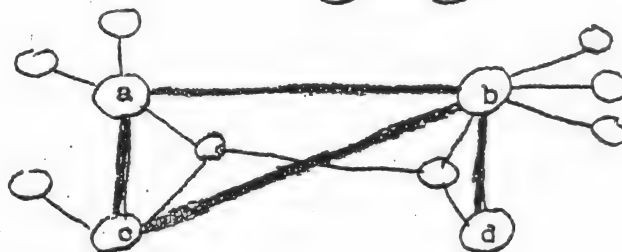
However, outside of mathematics, it is unlikely that the same principle will be formulated in two different fields in such manners that they will seem directly comparable. I would like to suggest that the "sameness" we are looking for is actually optional, or nominalistic; and I will try to show it. I think I can explain more clearly with illustrations than with the new notation. Let us take a schematic.



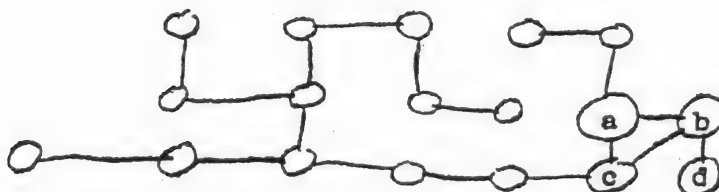
Then let us take several other schematics, and see if we can find correspondences:



(19)



(20)



It is clear that all the diagrams have some resemblance to (15). It is hard, in each case, to say what kind of resemblance, at least as far as the real world is concerned; we don't know what the things are, and can only speak schematically. Obviously ~~(15)~~ (16) is really the same thing, since we can bet that the right angles were incidental. We can't be sure, though; perhaps they meant something. It depends on the schematic's meaning, which_x we don't know. Or care about, right now. (17) is different, but we don't know how different. We don't know, and cannot ask, whether the diagonal connection between c and b is crucial or trivial. In fact it is neither, since this is just a schematic. All we can say is that one connection is different. Similarly, in (18), we can only say that one thing has been added. In (19), we can see the original schematic (15) as a framework for the whole pattern. In (20), it is hiding off on the side.

This discussion has shown us, I think, that the resemblances among schematics-- hence, among statements, concepts, descriptive systems-- is in some important senses an optional matter: what schematics we see to be alike are alike. They are (of course) sometimes more alike, sometimes less alike. A relation in one may be absent in another. The schematic we seek in another may be a fundamental framework, an accessory pattern, an accidental. Yet it is there if we specify a part-to-part correspondence between it and another schematic.

What about the real world? I would like to say that we can "see" anything in the world in terms of any schematic. What this involves is stipulating a correspondence between a schematic and the world (or something in it,) then specifying the correspondence, part-for-part, as far as it seems to hold true. Thus, similarity.

Whether two things are the same depends on the range we will allow! Except in metaphysics, however, we do this in conformance with empirical indices. Sometimes the likeness is only a small-scale insight, sometimes a fullblown answer to a theoretical impasse. Regardless of what objects we see, we will often see resemblances-- trivial, interesting, important, overriding-- which move us to say, "these two are similar." The resemblance may be between a barrel and a bottle, between a bubble and a box, between birdwatching and Buddhism. In any of these cases, it is impossible to say whether there is "really" a resemblance. Instead, we are comparing two schematics of the things discussed, and finding a minor, major or indifferent set of parts in common. These schematic parts may be intrinsic or extrinsic, internal or exterior: barrels and bottles are both round containers, bubbles and boxes both at least contain space, birdwatching and Buddhism at least have names in English which begin with the same letter. This is grossly farfetched; yet it is genuine grounds for association and comparison. Whether the comparison is scientific or not depends on a multitude of further things. This would then be a nominalistic theory of isomorphism: that two things are alike-- classifiable in the same way-- on an arbitrary basis.

However, arbitrariness is not wantonness. There are principles which govern our perception, comparison and naming. If two things are alike on a lot of different counts-- that is, they all generally conform to the same schematic-- then they are the same thing. If, however, we want to discriminate between two things and make two schematics for two different classes, then they are two different things.

Let me here introduce the word paradigm, as meaning "a

terms of another.

There are times, alluded to previously, when we want to say that a relation between two entities is not the same-- is less than, or more than, a feature of the paradigm, or is just "different"; this incomplete or irregular correspondence of parts can be in some way annotated so we can tell that there is a difference:

(22) "John loves Mary."



a, b, a*b

Consecutive paradigm:
A, B, C

"Mary loves John."



a, b, a*b

How it fits:
A, B, C

As I have said and made painfully clear, the rules for transforming schematics one-to-the-other, and stating them in terms of each other, are beyond the scope of this paper. At best, I am proposing this system as a way of thinking of thinking about things. Once the transformation rules are known, we will have a sort of meta-metamorphosis.

There are a few other points. One is the question of how to select a paradigm for a series if you haven't got one-- which brief will best summarize them all. This is probably a matter of game theory: which one will make the least trouble in the long run, with the fewest null features, ^{and} qualified fits. Once concept that would probably be useful is the allodigm: a subtype of the paradigm, wherein alternative sets of relationships existed. For example, if the series contained paradigms of two general types: "a, b, c, d, a*c-d, b*c-d, a**a*c-d," and "a, b, c, d, a*c-d, b*c-d, a**b*c-d," the two allodigms of the paradigm would be "A, B, C, D, E, F, G" and "A, B, C, D, E, F, G*".

Another point is that a schematic can be at the same time
part of another schematic, just as the same proposition may be
part of two greatly divergent world-views. We saw that in (19),
which contained another schematic besides paradigm (15):

"different": this is a schematic consideration of
(23)
parts can be in some way different. We saw that there is
a difference.

(21) "The trunk of the Universe is scientific law, the

Correspondence to paradigm:

How it fits:

As I have said and made relatively clear, the value for
forming schemata is not to fix them, but to show that they are
or so. I would now like to turn to a more prosaic topic, that of
"meaning." I have already claimed that anything satisfied a
schematic if there has been a stipulation of correspondence and
a specification of correspondence. In other words, "The Universe
is an Elephant" can have a sort of miasmic truth if we schematicize
an elephant as having trunk, ears, tail, etc., and explain para-
bolically how "The trunk of the Universe is scientific law, the
ears are the beliefs of man, etc." We notice that if "elephant" can be thought of as a sort of
vague schematic, so can other words; so can principles; so can
metaphors; and so on. "Vicious circle," "tight squeeze," "victim,"
"keystone," "turnbuckle," "melting pot" -- all these carry schematics
as part of their meanings; they are principles looking for contexts.
However, there are other words which can have more anchored meaning:
"footpound," "leucocy" etc. The scientific mind

is impatient with talk whose meaning is not so hardened. Even in science (especially social science) we may espay a principle but be still short of formulating it, quantifying it, operationalizing it, anchoring it. In this case we should not bake it too soon. Outside science-- in home and office and garage-- we have no need for more precision than will get the work done, as, "Hand me the thingamajig," "Watch it!" And in poetry and literature, the anchoredness may be greatly loosened: "Life is like a coffeepot-- you tilt it part way and you get what you want but you tilt it the rest of the way and the top falls out and knocks your cup over" needs no apology, since the schematic correspondence between "life" and "coffeepots" comes clear.

One thing I have not attempted to cover in this paper is the problem of segmentation-- how a "whirlpool" gets divided up into entities and relationships, and how (2a) ever got to be (2b). It would seem sometimes to be like finding a mode or a midpoint, yet often in many more dimensions; how we might chart the differences between two segmentations of the same thing (as in illustration (1), especially the second "man".) It would seem a bit knotty.

A.

PART TWO. SYSTEMATICS.

Having taken a nominalistic stand on the resemblances between schematics, I will now seem to reverse myself and discuss systematics, the study of paradigms and differences of "similar" things in the real world.

A systematic is a real schematic, and far less delimitable. In fine, a systematic is a thing, with its ranges of changes. It will be recalled that my account of a "thing" denied that "things" existed, saying rather that they were perceived, and with some arbitrariness, lumped together in a single class at the will of the namer. This is schematics. A systematic is the occurrences of a schematic in the world, and systematics is then the study of the features that unite the class, and what variations they may undergo while remaining within the class.

Let us take all the cows in the world; that is, all the things that would be referred to by the word "cow," whittling off its fringe connotations. The composite picture they will yield will be the paradigm, "cow." The features of that paradigm will be the things all cows have in common and the lasting, common relationships: those which run through all instances of the class, and which may be sensibly chosen as features of the paradigm: the factors of ability and personality of cows, as they might be uncovered by Thurstonian analysis of reams of tests.

The feature of a systematic, like that of a schematic, need exist in all instances or a definable set of them: that is, hair on top of the head is a feature of the paradigm "man", but in the systematic of "all men" there must be an allodigm for men who are bald.

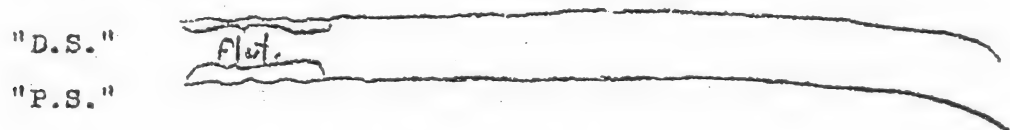
1. An example: the frisby systematic.

It may be seen, interestingly, that in the game of Frisby an individual has a characteristic thrust, which has personalized aerodynamic qualities; the direction and curve of path and the pattern of flutter vary personally within certain investible limits. Let us examine the thrust of "B.P."



The flutter, which I have exaggerated, has a characteristic spacing relative to the entire trajectory. Presumably these personal touches are caused by subtle characteristic muscular relationships of the individual. The systematic of B.P.'s frisby thrust, then, is the range of possible thrusts and the consistent formulae that can be advanced to summarize this range. It might be a part of the formula, for example, that B.P.'s thrust fluttered during the second third of the flight (this contradicts the drawings; but no matter) and that the flutter was in direct proportion to the distance; but it would scarcely be that simple.

The brothers "S.", by contrast, throw the frisby in the following ways:



Again, a formula could be developed.*

* Postulations of a "frisby gene" are premature. We wait on studies of identical twins reared apart.

Now: the composite systematic for all frisby-thrusting would be a master formula for all existing personal patterns, showing the correlations and patterns of variation. In other words, it would be a factor analysis.

This is not a dazzling viewpoint; but I would wish to say that some things ^{not now so studied} can best be studied in this systematic fashion: as variations-from/instances-of a central pattern.

2) The study of attitudes, values and beliefs, a cavernous cessary of social psychology, has proceeded along arbitrary dimensions in investigation and measurement, dividing "values" (for instance) into "economic," "political," "social," "theoretical," "aesthetic," and "religious;" then devising scales which best measure individual variation along these dimensions. The same has been done for "authoritarianism," a personality-attitude trait created on the drawing board over a protracted and expensive study, "anti-semitism" (a part of the same study,) and many others. I think that these studies are going at it the wrong way. I would submit that a considerably more satisfactory way to study values is by the systematic method, whereby the persistent relationships are uncovered: factorial studies, etc. These would yield some general knowledge of the norms, major contours of belief, major patterns of variation, minor variations, etc. The major patterns would be "points of view," "value-systems" and such, the minor patterns would be significant lines of dissent. I am confident that these patterns would correspond in some important way to major lines of argument, rebukes and compromises. Now, it could be objected that the "values" and other studies were systematic, working from a central paradigm of six dimensions; but I would contend that they are not: no good reason is advanced for

the acceptance of these dimensions, while the "systematic" approach would at least give you major contours of belief as well as a base for making scales of accession to major patterns. Moreover, the six-axis method would only be plumbing inaccurately the same thing we wish to sound systematically.

It will be noted that the major patterns of viewpoint would change from population to population, from place to place, from time to time: for this I would like to call them "idionomic," meaning that they cannot be expressed according to an imported schematic. Therefore a given set of opinions will factorially fit the prevailing norm at one time and not at another, or not in another crowd of people. (Compare, "certain English sentences today were not English sentences in 1400, and are not Pidgin English either.")

3) Anthropology, I think, must also have a lot of its componential analyses on a unique basis. For example, the study of culture often exaggerates the separation (in primitive society) between various aspects of the society: the "social" is overly differentiated from the "economic" and "religious," and the true lines of relationship-- the functions of trival societies, artifacts, etc.-- are obscured in the text, as they were not in the field work, by arbitrary divisions. I make here what resembles a Gestalt-claim: that you cannot break down trival structure into "religious," & "economic," etc., as components, but just as the woof of a rubrick that the significant components will be culturally unique.

4) The study of language and style: Contemporary linguistics has made the study of language the study of the formulae for the formation of correct utterances. The formula is a paradigm for

for the systematic, which is the range of possible sentences. The study of style, in anthropology and aesthetics, also seeks to induce formulae for sensible description in more than impressionistic terms. I feel confident that the style of, say, van Gogh, could be expressed close-to-completely in a formula relating hue, brightness, texture, object size, canvas size, ranges and types of gradation, etc. Each of these characteristics we have induced would then be a feature of the paradigm (which is the formula,) or the systematic (which is all the occurrences of van Gogh paintings.) There may be confusion here about the formula. To say that a formula exists is not to say that something is not brilliant, inspired, beautiful; neither is it to say that once the formula is approximated, a machine can turn out a new van Gogh. The formula is rather a set of inductive facts about a series of things, comprehending the facets they have in common. (But we said, "close-to-completely.") In any case, the van Gogh systematic is all the paintings he did, and the allodigns are the major types of painting and stylistic periods.

One interesting thing ~~is~~ about language and styles, to me, is the way a linguistic formula or stylistic formula can change over time. The change from T_1 to T_2 will be comprehended by one schematic, the change from T_2 to T_3 by a schematic which may not relate to the first schematic at all; the change may be in a new direction, yet one which could not have taken place were it not for the first change.

5) Perception. A systematic of importance is that of learned perception. It will be recalled that a schematic can be thought of as a way of perceiving a thing. In other words, an iceberg, when seen, can be seen as a large thing on top of the water,

For it ~~can~~ be seen as something much huger mostly under water;
~~related~~ we see a fragment. If we see a photograph and then
~~recognize~~ it to be a bad likeness of someone we know, there is a
~~clear~~ sensation or re-alignment as we re-arrange the features
~~to~~ correspond better to the person we know. This knowledge,
 either of ~~the~~ person, is a part of the perception. When
 we look at a painting or listen to music, we relate the painting
 or music, in form or style, to similar things we have seen be-
 fore, and our perception of the current works will be a part of
 that. The systematic of learned perception, then, would be a
 statement of the transformations that perception can undergo
 through learning. The more complex case, of course, would be
 that involving the learning of a complex formula, linguistic,
 stylistic, etc., and the recognition of its instances, and the
 creation of new instances. But the most important part of this
 (but is) impalpables, ineffables and evanescences. The system-
 atics that are hardest to deal with, and often those of the
 greatest importance, are those whose propensities to shift rela-
 tionships with small changes are greatest: that is, whose impor-
 tant perceptual and relational qualities will change acutely over
 something seemingly small. It is not that a car will change
 greatly with a slight turn of the wheel; but on a narrow canyon
 road, the general tenor of the situation might vary considerably
 if the wheel were improperly turned.
 For the difficulty with this formulation, of course, is the
 definition of "small change". The slight ^{turn} ~~change~~ of the wheel is
 by inspection a small change. We cannot call it small by virtue
 of its likelihood, since it ^{is} extremely unlikely, that our driver,
 who has driven this road many times before, will make that small

change that plunges him over. Yet it is still a small change. Statistical possibility is even worse off: just because he has never slipped yet does not mean he never will; just because the human race has never been destroyed by atomic warfare, we have no guarantee that it will not.

Perhaps the small-change idea will work in terms of likelihood after all. But what we must know is the likelihood of different kinds of changes, and how they systematically relate to the environment of the driver: what causes they might have. It is very unlikely that his spark plugs will suddenly foul. It is possible that he might go over the cliff either because of a hole in the road or because of his psychological state.

I have dwelt on this example because I want to say that ^{is} there ~~are~~ a number of things of importance for study whose general contour changes markedly with small changes: these are the mystic's ineffables and imponderables, like "experience," "feeling," "culture," "mazyway" (anthropologist Anthony Wallace,) and so forth. These vary enormously with happenstance. It is, naturally, this enormous variation which has incited in psychologists such a deep and heartfelt repugnance for the analysis of phenomenology. Indeed, this care to shy the treacherous has evoked many felicitous discoveries. However, I cannot understand the point of view that denies that subjective experience will never have any place ^{ist} in a science of psychology. To justify this, a psychology would have to hold one of the following viewpoints:

Subjective experience is

- a) Existent but in no way discernible
- b) Existent but hard to discern
- c) Existent but immeasurably, therefore unworthy

- d) Possibly existent, but theoretically unnecessary
- e) Nonexistent.

I think that only the second claim can be substantiated; even in reply to that, I am certain that a few formulae for necessary subjective relations may be developed. In any case, I am certain that we cannot call phenomenology unworthy of study, since "worthy of study" generally means "someone wants to study it."

PART THREE. NORMATICS.

I do not have space adequately to deal with the normatic, or systematic of choice; I will confine myself to a few definitions and the statement of the normatic principle, without remarking on the utilitarian economics of the business.

The normatic is the systematic of choice and planning. As such, it has a schematic base; and the schematic has three kinds of features. 1) The focal feature, or "what we are aiming at." 2) The ^{instrumental} feature, or that which has to be done any-way to maintain life, make it possible to achieve the focal feature, etc. 3) The incidental feature, which is any other desideratum, along the way: freedom of speech, good food, etc. Now, the range of the normatic/^{focal paradigm} is all the normatics that will achieve the focal feature. Since this excludes any wild plans which would omit instrumental features-- that is, ^{can} not get off the ground-- the choice among normatics must be a game-theory choice according to degree of fulfillment of focal and incidental features, based on a weighting of which ones are most desirable. The incidental

The fundamental normatic question is this: what ^{schematic} of the problem are we to accept as our paradigm? This will have strong consequences for the solution of the problem; because the way you define the desiderata, and consequently the measures you take (and what things are lumped together,) will shape the future beyond your planning (perhaps.) In other words, if the desideratum is "eliminating crime," then we are likely to treat all crime in generally the same way. However, I do not preach General Semantics: it is not the way we talk about the problem.

but the way we treat it, that counts. To phrase it differently: "When can we allow exceptions?" The answer is, "When this case is different." But we want some objective idea of "different." If we seek the greatest utilitarian profit, we should make an exception when the exception brings us (gambler, society, etc.) ^{more} than the long-run consistent behavior.

Should all criminals be paroled? No, if there is an isolable ^{of} group ☐ whom we can predict recidivism with high accuracy.

Should we subject everyone to the same introductory courses? No, if we know that a selectable group can learn better in another way. Etc. There is a compound effect: ^{against} the benefit of allowing exceptions, we must weigh 1) the effortlessness of the status quo compared to the cost of administering the new system, 2) the cost of the change-over, 3) the cost of estimating these costs and designing the changesover.

The definition of the job also has a powerful effect. When rules are made, committees formed and offices put in charge, it is done so according to a schematic which corresponds in some way to the features of the normatic involved: committees will be constituted to handle specific problems; bureaux will be compartmentalized according to the general headings thought to be most summary and effective.

Example: in a theatrical production, the central hierarchy of control lies in the producer, the stage manager and the director. Each has an integrated task to perform: producer gets the money and sees that it is well spent, stage manager sees to technical detail-work, and director unifies the production as an aesthetic object. This is not a necessary structure, it is empirically the best one for general purposes. The unity of each job will collapse

under special strain and extraordinary circumstances, and it would be found that other schematizations would have more salubrious effects.

Even our "best normal structure" sometimes gets out of hand: one of the three can be incompetent, or defect and stop doing his job properly. If it is the stage manager, all is lost. If it is the producer, he may be persuaded or bullyragged by the others to accept their judgements for the good of the production. If it is the director, the actors may sometimes be able to-- if they are extraordinarily resourceful-- to do a good job without the director's actual help. Of course, it may go to pieces anyway; but these are some prominent ways it could be saved in these eventualities. There is, we see, a particular systematic of the kinds of trouble that can result from the organizational setup: the bumbling or defection of any of the three will mess up his particular sector of control.

I would like to make this a general principle for all normatics: the sectoring of control and jurisdiction, based on the schematic of normatic features, will have a particular systematic of smooth functioning and a particular systematic of disruption. Whether a setup is the best setup for a given problem or for sustaining copage with something will depend, first, on whether it is generally effective; secondly, on the pattern and possibility of things going wrong; thirdly the alternative normatics which would have contrasting setups and hence contrasting results.

The reason we prefer democracy to dictatorship is not the desire of the people for participation, but the empirical presupposition that it is safer than a dictator. We know well that an autarch is better capable of comprehending a far-reaching and many-

sided situation than a representative assembly; what we do not trust is his likelihood of perpetual fidelity to the ultimates and proximates of popular desire.

Similarly, the way the Cabinet Posts are selected contains implicitly the likelihoods of kinds of solution that can be offered for a given problem. If we have secretaries of Labor, Commerce, Transportation and Health, the kinds of action and policy they will want and be able to effect will be different from that of a Cabinet having Ministers of Youth, National Morale, Entertainment, City Planning and Equality.

